

**CALIFORNIA DEPARTMENT OF PUBLIC HEALTH**

**OFFICE OF BINATIONAL BORDER HEALTH**

# **BORDER HEALTH STATUS REPORT TO THE LEGISLATURE 2012**

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## **ACKNOWLEDGEMENTS**

**The California Office of Binational Border Health recognizes and appreciates the contributions and cooperation of the following agencies and individuals in producing this report:**

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## **ACKNOWLEDGEMENTS (Cont.)**

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## **EXECUTIVE SUMMARY**

### ***Highlights of the Annual Border Health Status: Report to the Legislature 2012***

The border experiences public health challenges and issues that are distinctive to the region, due to the complexities of the relationship between the U.S. and Mexico. Often, there are challenges providing health care services, especially as it relates to disease prevention, surveillance, and control. This report uses the most recent available data and covers the following indicators: demographics, access to health care, obesity, diabetes, mental health, asthma, tuberculosis, HIV/AIDS, and sexually transmitted infections.

#### **Demographics**

- In 2011, the estimated total population of the two California border counties was 3,413,333 (178,659 in Imperial County and 3,234,674 in San Diego County), this estimate represents nine percent of California's total population.
- In San Diego County, Hispanics/Latinos account for 33% of the total population, while in Imperial County Hispanics/Latinos represent 81% of the total population. In comparison, throughout the state of California, Hispanics/Latinos constitute 38% of the total population.
- Approximately half (48.9%) of the Imperial County population is living below the federal poverty level, and in 2011, they had the highest unemployment rate in the state (29.7%).
- In San Diego and Imperial Counties, the Hispanic/Latino population is less likely to speak English “well” or “very well”, when compared to Whites and all ethnicities combined.
- In San Diego and Imperial Counties, the Hispanic/Latino population is less likely to graduate from high school and receive a college level education or higher when compared to Whites and all ethnicities combined.

#### **Access to Health Care**

- In 2009, in San Diego and California statewide, the Hispanic/Latino population (73.2% and 78% respectively) reported lower rates of health insurance coverage when compared to Whites (94.6% and 91% respectively).
- In San Diego, self-reported rates of health insurance coverage among Hispanic/Latinos and Whites were 73.2% and 94.6% respectively. In comparison, throughout the state of California self-reported health insurance coverage rates were 78% and 91% among Hispanic/Latino and Whites respectively.
- Results show that in San Diego the population who has born in Mexico had 58.2% health insurance coverage, whereas among the population who was born in the U.S., 82.1% had health insurance coverage.

#### **Obesity**

- According to the most recent California Health Interview Survey (CHIS), in 2009, the majority of the population in San Diego County, Imperial County, as well as throughout California was overweight or obese (55.3%, 68.1%, and 56.3% respectively).

- In San Diego County, Imperial County and throughout the state of California, the Hispanic/Latino population had a higher rate of obesity and overweight than their White counterparts and all ethnicities combined.
- In San Diego County and California statewide, Hispanic/Latino children had a higher proportion of obesity when compared to White children (14% vs. 5.7% in San Diego respectively and 14.6% vs. 7.8% in California statewide respectively).

### **Diabetes**

- Results from the most recent CHIS from 2009, show that 9.6% of all adults in Imperial County had been diagnosed with diabetes compared to 7.8% in San Diego and 8.5% in California statewide.
- In San Diego and Imperial Counties, Hispanic/Latino adults have a higher prevalence of diabetes compared to non-Hispanic Whites and all ethnicities combined.
- In California, from 2005 to 2009, there was an increase in adults who were diagnosed with diabetes among Hispanics and all ethnicities combined.
- In San Diego County and California statewide, the diabetes-age adjusted death rate for Hispanic/Latino is approximately 50% higher than the rate for all ethnicities combined. When compared to the diabetes age-adjusted death rate of the White population, the rate for Hispanic/Latino is almost double.

### **Mental Health**

- In 2009 approximately 10% of Imperial County residents were likely to have had psychological distress during the last year, compared to 5.3% in San Diego County and 6.5% statewide in California.
- In 2010, Hispanics/Latinos from Imperial County had the lowest suicide rate (3.4 per 100,000) in the border region. In San Diego, the rate among Hispanics/Latinos in San Diego was 5.4 per 100,000. The highest suicide rates occurred among Whites in both border counties (Imperial County 10.8 and San Diego 13.4 per 100,000).

### **Asthma**

- In California, Imperial County, and San Diego County, asthma prevalence among White adults is higher when compared to Hispanics/Latinos adults and all race/ethnicities adults combined (Imperial County =18.9%, San Diego County =13.2%, and California =15%).
- For every 10,000 children in Imperial County, 31.8 were hospitalized for asthma in 2011.

### **Tuberculosis**

- In 2010, San Diego County reported 10% of the state's total tuberculosis (TB) cases (222 cases, 7.0 per 100,000).
- Imperial County reported the lowest number of cases (n=26), but had the highest case rate of all the California counties in 2010 (13.7 per 100,000).
- From 2008 to 2010, 76% of California's TB cases were born outside of the U.S. The most common country of birth was Mexico, which accounted for 23% of all TB cases.
- In the past decade, both the number and case rate of reported TB cases has declined in California, as well as in the border counties.

### **HIV/AIDS**

- In 2011, the total number of people living with HIV infection in San Diego was 12,074; of those 60% were classified as AIDS and 40% as HIV (Non-AIDS). In Imperial County the total number of people living with HIV in 2011 was 222 (69% AIDS and 31% HIV non-AIDS).
- In San Diego, African-Americans had the lowest numbers of people living with HIV and/or AIDS but had the highest rate (1039 per 100,000).
- Persons living with HIV (Non-AIDS) in the border region had a rate of 143 per 100,000 when compared to the rate for the state of California (114 per 100,000).
- Out of the total people living with HIV and/or AIDS, in Imperial County during 2011, 86% were male, whereas in San Diego County 90% were male.
- Among males, the main mode of transmission is sexual contact and the main exposure category was Men Who have sex with Men (MSM) which represented 81% of all cases. Among females the predominant mode of transmission was heterosexual which accounted for 69% of the total cases.

### **Sexually Transmitted Infections**

- Rates of chlamydia, gonorrhea and syphilis increased in, San Diego County, Imperial County and California, in 2011, when compared to rates in 2010.
- In 2011, chlamydia rates per 100,000 were higher in San Diego (491.8) than Imperial County (414.2). In San Diego, African-Americans had the highest rates (939.5 per 100,000).
- In 2011, Imperial County had the lowest gonorrhea rate of the region with 21.3 per 100,000, whereas San Diego had 69.4 cases per 100,000.
- In 2011, Imperial County had a rate for primary and secondary syphilis of 1.7 per 100,000, while San Diego had a rate of 9.3 per 100,000.



## INTRODUCTION

The U.S.-Mexico border region of California is comprised of San Diego and Imperial Counties. These counties share a border with the Mexican State of Baja California, and their main cities: Tijuana, Mexicali and Tecate. The California south border region is unique due to the diversity in culture, social and economic characteristics of its habitants. The proximity with Mexico and the fluidity of movement of people across the border (north- and south-bound) represents a unique, although complex, region for public health work.

San Diego and Imperial Counties each have different economical, geographical and demographical characteristics that give rise to different health challenges. In San Diego County, the majority of the population is White but Hispanic/Latinos represent the largest minority population. In contrast, Imperial County's population is primarily Hispanic/Latino.

The California Office of Binational Border Health (COBBH) was created to help identify challenges and promote health successes that are specific to the border region and its unique population. COBBH works in partnership with state and local agencies to develop the Annual Border Health Status Report which provides evidence-based information on the needs of the border community. This report summarizes, synthesizes and analyzes data from a variety of relevant sources to provide an accurate and updated report.

This "Report to the Legislature: Annual Border Health Status Report 2012" provides a summary of the current health status of the border region. The report was prepared by the California Department of Public Health, in compliance with the requirement set forth in Assembly Bill 63, Chapter 765, Statutes of 1999 (Section 475 of the Health and Safety Code). This report presents important health indicators for border communities in California. This report is not and does not intend to be a fully comprehensive report of all health issues of the border. This report aims to provide a general overview of the health status of the population living in this border region. The 2012 report covers demographics, access to healthcare, obesity, physical activity, diabetes, mental health, asthma, tuberculosis, HIV/AIDS, and sexually transmitted infections.

## DEMOGRAPHICS

Over the last ten-year period (2002-2012), the population of the southern border region of California (composed of San Diego and Imperial Counties), has experienced steady growth. During this period, Imperial County's population increased by 18.9%, more than double the rate of increase in San Diego County (9.7%), and in California overall (7.0%) during the same time. According to 2012 statistics, there were 3,413,333 individuals living in this region, of these the majority live in San Diego County (n=3,234,674) and a smaller proportion in Imperial County (n=178,659).

The population in California and its southern most border region is racially and ethnically diverse. In 2012, Hispanics/Latinos made up the majority (81%) of the population in Imperial County while Whites made up 14% of the population. In San Diego County, the majority of the population was White (47%), and Hispanics/Latinos constituted the largest minority group at 33%. In California statewide, the demographic composition is similar to San Diego, Hispanics/Latinos made up the largest minority (38.0%), while the White majority made up 40% of the population. From 2002 to 2012, in California, the Hispanic/Latino population increased by 22.6%, while the White population had a decrease of 8.2%.

The proportion of the population in California that reported being able to speak English 'well' or 'very well' was 64.2%. In each border county, a higher proportion of Whites were able to speak English "well" or "very well" compared to the Hispanic/Latinos population. In San Diego, Imperial County, and California as a whole, Hispanic/Latino are less likely to receive a college level education or higher when compared to Whites. This is also apparent when we compare the education level of Hispanics/Latinos with that of all ethnicities combined. In California, the percent of Hispanics/Latinos who have less than a high school education (35.6%) was more than 8 times greater when compared to the White population (4.5%). In San Diego, the disparity was wider, where the percent of Hispanics/Latinos who had less than a high school education (25.9%) is more than 12 times greater than the rate in the White population (2.2%). In Imperial, the percentage of the Non-Hispanic White population who had less than a high school degree was 5.2%; in Hispanics/Latinos the percentage was almost six times greater (29.7%).

According to the most recent data available from 2009, approximately half (48.9%) of Imperial County residents were living 200% below the Federal Poverty Level (FPL), compared with 29% in San Diego County and 36.4% in California statewide. In San Diego, a higher percent of the Hispanic/Latino population was living below 200% FPL compared with the total County population. Across all ethnicities, there was a considerably higher percent of the population living at or above 300% FPL in San Diego County (56.9%) and California (49.7%) than in Imperial County (30.0%). Similar proportions were found when Imperial County was compared to California statewide. Additionally, in both border counties and California statewide, the percent of Whites living at or above 300% FPL was at least twice as high as that of Hispanics/Latinos. According to the 2011 Local Area Unemployment Statistics (LAUS), California reported that 11.7 % of the population was unemployed, an improvement from 2010 during which the unemployment rate was 12.4%. Imperial County reported a higher unemployment

rate than San Diego County. In 2011, the unemployment rate for Imperial County was 29.7%, this rate was the highest among all the counties in California.

## **ACCESS TO HEALTH CARE**

Access to care is the timely use of personal health services to achieve the best possible outcomes (Healthy People 2020, 2013). Access to healthcare can be limited by many factors including an inability to pay for services, lack of health insurance, shortage of health care providers, as well as having no regular source of ongoing healthcare (Gulliford, Figueroa-Munoz, Morgan, Hughes, Gibson, Beech, & Hudson, 2002). Improving access to health care helps eliminate disparities and increases not only quality of life but also the life expectancy of individuals. Ensuring access to preventive services is an essential component if we are to effectively manage chronic and infectious diseases. Current policy efforts focus on the provision of insurance coverage for ensuring access to health care (Healthy People 2020, 2013).

According to data from 2009, Hispanics in San Diego County and throughout California reported lower rates of health coverage when compared to Whites. In San Diego, 94.6% of Whites reported having coverage as opposed to 73.2% of the Hispanic/Latinos. Differences in health insurance coverage were also observed by country of birth. In 2009, approximately 58% of the Mexican-born San Diego population had insurance coverage in San Diego. In comparison, among the US-born population, 82.1% reported they were born in the U.S. and had insurance coverage (CHIS, 2009).

## **OBESITY AND PHYSICAL ACTIVITY**

### **OBESITY**

In the California border region, overweight and obesity are recognized as a major public health challenge. Obesity and overweight are terms used to define ranges of weight that are greater than what is considered healthy for a given height. For adults, obesity and overweight are most commonly measured in terms of a number called the body mass index (BMI). This is a calculated measure of weight in relation to height. Adults are considered obese when they have a BMI greater than 30 kg /m<sup>2</sup> and overweight when their BMI is between 25 and 29.9 kg/m<sup>2</sup>. Adults who are overweight or obese are at higher risk for developing serious health conditions such as Type 2 Diabetes, hypertension, coronary heart disease, cardiovascular disease and some cancers.

As of 2009, more than half of the population in San Diego County, Imperial County and throughout California was overweight or obese (55.3%, 68.1%, and 56.3% respectively). In San Diego, Imperial Counties, and throughout California, the Hispanic/Latino population had a higher rate of overweight and obesity compared to their White counterparts and the population as a whole. When looking at gender differences, Hispanic/Latino men in Imperial County had the highest proportion (39.5%) of overweight and obesity, whereas among females this proportion was 37.4%. In San Diego County, the proportion of Hispanic/Latino men that are overweight and obese is also higher than for Hispanic/Latino women (37.4% vs. 24.9% respectively). Imperial County reported increasing levels of obesity from 2005 to 2007 (18.4% to 21.7% respectively); however, rates remained stable at almost 22% from 2007 to 2009.

Among children, rates for obesity have been on the rise for the past several decades (California Health Interview Survey [CHIS], 2009). In Imperial County, 15% of White children were overweight or obese when compared to 5.2% of Hispanic/Latino children. In San Diego County, 14.2% of Hispanic/Latino children were overweight or obese as opposed to 5.7% of White children (CHIS, 2009).

## **PHYSICAL ACTIVITY**

Regular physical activity is an important component when trying to lose or maintain a healthy weight. Persons who engage regularly in physical activity have reduced risks for cardiovascular disease, diabetes, and other chronic diseases (Center for Disease Control [CDC], 2013b). Furthermore, physical activity helps to reduce the risk for several forms of cancer, arthritis pain, osteoporosis, stroke, and depression (Healthy People 2020, 2013). In 2009, more than 70% of all adults in Imperial County and 62.6% of adults in San Diego County, were not physically active or did not perform some type of physical activity. Throughout the state of California, 63.7% of the adult population reported not being physically active.

According to the most recent CHIS data from 2009, slightly more than half of children in Imperial County reported engaging in vigorous physical activity at least 3 days a week. In comparison, throughout the state of California, 77% of all children reported engaging in vigorous physical activity at least three days a week. Active transportation, defined as “any self-propelled, human-powered mode of transportation, such as walking or bicycling” is a good opportunity to positively impact obesity by increasing physical activity, especially among children (American Public Health Association, 2013). In San Diego, 47% of Hispanic/Latino children and teens reported walking, biking or skating (active transportation) from school at least once per week. However, in Imperial County 36% of Hispanic/Latino and 18.6% of Whites reported active transportation (CHIS, 2009).

## **DIABETES**

Diabetes is a chronic medical condition that occurs when the body cannot metabolize glucose (a type of sugar); this usually is a result of defects in insulin production, insulin action or both. Diabetes, particularly Type 2 Diabetes, is a significant and growing health problem that affects adults, adolescents and children. There are several serious complications associated with diabetes such as blindness, lower limb amputations, nervous system disease, and kidney failure. In addition, diabetes is also a major contributor to heart attacks and strokes. Furthermore, the risk of death among people with diabetes is about twice that of people of similar age without diabetes (CDC, 2011c).

Prevalence of diabetes among adults along the U.S./Mexico border region is two to three times higher than in the United States (Pan American Health Organization, 2010). Along the border region, Mexican immigrants have significantly higher rates of undiagnosed diabetes compared to U.S.-born Hispanics/Latinos or Whites (Stoddard, He, & Schillinger, 2010; Stoddard, He & Vijayaraghavan, 2010; Vijayaraghavan, He, Stoddard & Schillinger, 2010). In 2009, 9.6% of all adults in Imperial County and 7.8% of all adults in San Diego County had diagnosed diabetes. These estimates are similar to statewide

data which showed that 8.5% of all adults had diagnosed diabetes. When looking at the distribution by ethnicity throughout California, the proportion of people with diabetes is higher for Hispanic/Latino adults (10.7%) than Whites (6.3%) and adults from all ethnicities combined (8.5%). Both San Diego County and Imperial County had higher proportions of Hispanic/Latino adults with diabetes compared to Whites. In San Diego, the proportion of Hispanics/Latinos with diabetes is more than double when compared to White adults (CHIS, 2013). Over the four year period from 2005 to 2009, the proportion of adults with diagnosed diabetes in Imperial County slightly decreased (10.9% to 9.6%). From 2005 to 2009, the proportion of adults with diagnosed diabetes in San Diego increased from 5.8% to 7.8%. Furthermore, between 2002 and 2010, there was no change in the diabetes age-adjusted death rate for both San Diego County and Imperial County. According to the most recent data available from 2010, the diabetes age-adjusted death rate in San Diego was more than double for Hispanics/Latinos than for Whites (32 vs. 14 per 100,000, respectively) (U.S. Department of Health and Human Services, 2012). For Imperial County, the diabetes age-adjusted death rate was also higher for Hispanic/Latino (22.1%) when compared to Whites (15.2%).

## MENTAL HEALTH

Mental illnesses are medical conditions that affect a person's thinking, feeling, and mood and might affect how she/he interacts with others and functions in daily activities. They range in the severity, frequency, and duration of symptoms for each individual (National Institute of Mental Health, 2011). There are many conditions that are classified as mental illnesses: anxiety disorders, such as post-traumatic stress disorder or obsessive compulsive disorder; mood disorders, such as depression or bipolar disorder; psychotic disorders such as schizophrenia; eating disorders; impulse control; addiction disorders; and personality disorders (Substance Abuse and Mental Health Services Administration [SAMHSA], 2005). When left untreated, people with mental health issues are at higher risk for other types of unhealthy and unsafe behaviors (Healthy People, 2020). However, with proper treatment and care, approximately 70% to 90% of individuals with mental health illnesses can improve their quality of life and lessen the symptoms (SAMHSA, 2005). One of the most extreme consequences of mental health illness is suicide.

According to the most recent CHIS data from 2009, 9.8% of Imperial County residents reported having had psychological distress during the past year, compared to 5.3% in San Diego County and 6.5% in California statewide. In San Diego County and California statewide, Hispanics/Latinos reported having more psychological distress during the past year when compared to Whites. The proportion in Imperial County was around 10% for both Whites and Hispanics/Latinos. In both border counties, more than 90% of Hispanic/Latino and White adults with mental-emotional problems sought treatment from a physician or mental health professional. While in San Diego, almost 100% of the Hispanic/Latino adults with mental-emotional problems sought care from a mental health professional. Among teens, 13% in California (2009) reported needing help for emotional/mental health problems. Moreover, this need was almost 4% higher in Imperial County (16.7%), among teens.

Furthermore, Imperial County had the highest percentage (46.8%) of adults with mental health problems that reported being unable to work for more than three months due to

mental health problems. Among Hispanic/Latino adults with mental/emotional problems in Imperial County, the proportion who reported being unable to work for more than 3 months is more than two times higher than the amount among Hispanics/Latinos in California statewide (44.7% compared to 17.6%). In San Diego County, among all of the adults diagnosed with mental/emotional problems, 25.3% of them reported having to miss work for more than three months.

### ***SUICIDE***

Suicide occurs when an individual intentionally ends their own life. Risk factors for suicidal behaviors include: previous suicide attempt(s), a history of depression or other mental illness, alcohol or drug abuse, family history of suicide or violence, physical illness, and/or feelings of loneliness (CDC, 2011a). Hispanics/Latinos from Imperial County had the lowest percent of suicide in the border region (3.4%). In San Diego County, the percent of Hispanic/Latinos who committed suicide was 5.4%. In both San Diego and Imperial County the proportion of Hispanic/Latino was lower when compared to Whites. In Imperial and San Diego Counties, suicide was more common among males as opposed to females; and even more common among White males when compared to Hispanic males, as well as White females compared to Hispanic/Latino females (SAMHSA, 2005).

## **ASTHMA**

Asthma is a chronic inflammatory lung disease. Common symptoms include recurrent episodes of shortness of breath, wheezing, coughing, and chest tightness. Asthma symptoms are mild and usually go away with medication, while elevated symptoms are known as asthma attacks. Severe asthma attacks can potentially require emergency care and lead to death (National Institutes of Health [NIH], 2012). Asthma may be caused by a variety of factors such as family history, exposure to secondhand smoke, and household and/or environmental pollutants. Symptoms of asthma can be triggered by tobacco smoke, dust mites, outdoor air pollution, pets, and other environmental factors (CDC, 2012a). Asthma is also one of the leading chronic childhood diseases in the United States and a major cause of childhood disability (Asthma and Allergy Foundation of America, 2011).

In San Diego, Imperial County, and throughout California, there have been no improvements in asthma prevalence from 2005-2011. According to the 2009 CHIS data, 14.4% of children (ages 0-17) in San Diego and Imperial County have been diagnosed with asthma by a physician at some point during their life (called "lifetime asthma prevalence"). When comparing youth in San Diego and Imperial, there is a higher percentage of youth diagnosed with asthma in Imperial County (17.8%) as opposed to San Diego County (14.2%). Lifetime asthma prevalence in adults (ages 18+) mirrors a similar disparity among the border counties. Imperial County has a slightly higher percentage of adults diagnosed with asthma by a physician in comparison to San Diego County. The disparity that exists within the adult population describes a higher proportion of asthma within Whites across all geographic locations. White adults have noticeably higher asthma prevalence than Hispanics/Latinos and all race/ethnicities combined (CHIS, 2009).

Rates of emergency department (ED) visits due to asthma are substantially higher in Imperial County than San Diego and California statewide. Children in Imperial had a considerably higher rate of ED visits in comparison to adult related ED visits due to asthma. Conversely, rates of asthma ED visits in adults (+18) are relatively low throughout San Diego. San Diego has some of lowest rates of ED visits due to asthma in comparison to the state of California: Hispanics/Latinos, Whites, and all races/ethnicities (24, 22.3 and 26.3 per 10,000, respectively). On the contrary, adult ED visits in Imperial County are nearly double the rates of San Diego County. The adult White population in Imperial County had the highest rate of ED visits (71.4 per 10,000), a rate which was three times higher than the rate of ED visits in Whites in San Diego (California Breathing, 2007). Asthma hospitalizations are higher among children throughout the border region as opposed to the entire state of California. San Diego compared to other counties has one of the lowest asthma hospitalization rates in children in the state of California. In San Diego County, 21.7 out of every 10,000 children have been hospitalized for asthma, whereas in Imperial County this number is much higher (55.7/10,000).

## TUBERCULOSIS

Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis*, a bacteria that usually attacks the lungs but can attack other regions of the body such as the kidney, spine, or brain if not treated properly and can sometimes result in death. TB is spread through the air when a person with active TB coughs, sneezes, or speaks and people nearby breathe in the bacteria. TB does not always cause symptoms and thus is called latent TB. Often peoples' bodies are able to keep the bacteria from growing and the only sign of infection is a positive TB skin test or blood test. People with latent TB are not infectious; however, TB becomes active if the immune system becomes weakened, such as in people with HIV and can no longer stop the bacteria from growing (CDC, 2010a).

California's border counties are major contributors to the state's TB burden. San Diego reported 10% (222 cases) of the state's TB cases in 2010, and a case rate of 7.0 per 100,000. Like California, San Diego County has experienced a decrease in cases and case rates during the past decade. Since 2000, San Diego County has had a case rate decline of 33%. While Imperial has a lower TB case count (26 cases), this county reported the highest case rate of all the California counties in 2010 (13.7 per 100,000) and has consistently had a rate higher than the state average.

A large proportion of California cases are among Hispanic/Latino ethnicity (38% from 2008-2010). The proportions of Hispanic/Latino TB cases were much higher in Imperial (93%) and San Diego (51%) counties. In California, as well as the border counties, the TB case rate was higher among Hispanics/Latinos than Whites. This disparity remains in San Diego County despite a 39% decrease in the rate among Hispanics/Latinos since 2000.

From 2008-2010, 76% of California's TB cases were born outside of the U.S. The most common birth country was Mexico, which accounted for 23% of all TB cases. In the border counties, the proportion of Mexican-born cases was higher than in the rest of California: 33% of San Diego County cases and 62% of Imperial County cases were born in Mexico. However, Mexican-born cases were not confined to border regions.

During this time period, 71% of TB-reporting jurisdictions reported at least one Mexican-born case. Los Angeles alone reported 33% of the Mexican-born TB cases in California, the highest number of TB cases reported by a single county.

During the same time period of 2008-2010, 28% of Mexican-born TB cases in California were diagnosed within 5 years of arrival to the U.S., and 58% were diagnosed more than 10 years after arrival. San Diego Mexican-born cases had a distribution of time from U.S. entry to TB diagnosis similar to California: 28% were diagnosed within 5 years and 59% were diagnosed more than 10 years after U.S. entry. However, in Imperial County, only 17% of cases were diagnosed in the first five years and 77% were diagnosed more than 10 years after arrival.

Drug resistance is a growing concern nationally and internationally. In California, the proportion of TB cases with drug resistance has changed very little throughout the last decade. From 2007-2009, initial resistance to isoniazid (INH), a key first-line anti-TB drug, occurred in 6% of Imperial County cases, 11% of San Diego County cases, and 10% of California TB cases. In all three areas, 8% of Mexican-born TB cases were resistant to INH. Multidrug-resistant Tuberculosis (MDR-TB) is defined as resistance to at least INH and rifampin (RIF), two of the most effective drugs used to treat TB. MDR-TB is more difficult to treat, often requiring up to 24 months of treatment with drugs that are costly and may cause serious complications for the patient. In California, of the cases with initial drug susceptibility results, 1.5% were identified as MDR-TB from 2007-2009. San Diego reported 10 MDR-TB cases (1.5%) during this time period, the third-highest burden after Los Angeles and Orange Counties. Imperial reported 2 MDR-TB cases during this time. Extensively drug resistant Tuberculosis (XDR-TB) is defined as MDR-TB with additional resistance to a fluoroquinolone and an injectable aminoglycoside. From 1993-2009, one out of 23 cases of XDR-TB reported in California was from a border county.

From 2007-2008 (the most recent available data on treatment outcomes), 87% of California's TB cases that started on anti-TB therapy completed their treatment. San Diego reported similar outcomes for TB cases, with 88% completing treatment. In Imperial County, the proportion of cases that completed treatment was 73%. Reasons for not completing treatment include death, losing a patient to follow-up, treatment refusal, and moving before treatment is completed. In California, 7% of TB cases moved prior to completing therapy. This includes moves within California, within the U.S., and to international destinations. Of the California cases that moved before completing treatment, 12% moved to Mexico. In San Diego County, 13% of patients that moved before completing treatment went to Mexico. The proportion of TB cases with Mexico as a destination was much higher in Imperial County (50%). Collaboration with health partners in Mexico and public health interventions aimed at reducing TB among Mexican-born are needed in order to effectively control TB in the state.

## HIV/AIDS

The first case of Acquired Immune Deficiency Syndrome (AIDS) was recognized in the United States in 1981, but it was not until 1983 that the Human Immunodeficiency Virus (HIV) that causes AIDS was first identified. After initial infection with HIV, some people develop flu-like symptoms while others have no symptoms at all. An AIDS diagnosis is not characterized by a specific set of symptoms but rather a variety of clinical



manifestations caused by opportunistic infections due to the lack of immune support. Among the most common are tuberculosis, pneumonia, herpes, and Kaposi's sarcoma. There are many risk factors that increase a person's likelihood of getting infected with HIV, including having multiple sexual partners, having other sexually transmitted infections, or having been diagnosed with tuberculosis, and hepatitis B or C (CDC, 2012b). The routes of transmission for HIV include: sexual contact, (heterosexual, homosexual, and bisexual), perinatal, (during birth or during breastfeeding), and parenteral (sharing paraphernalia for injecting drugs) (Stine, 2012).

The only way to confirm an HIV diagnosis is getting tested. People who are unknowingly infected with HIV can live long periods of time without ever showing symptoms or knowing they are infected. The CDC recommends that everyone between the ages of 13 and 64 should be tested at least once. However, if a person is at increased risk they should be tested at least once a year (CDC, 2011d). Rapid tests are becoming more popular and can produce results in as little as 20 minutes. In July 2012, The Food and Drug Administration (FDA) approved the first over-the-counter home-use rapid HIV test. This test allows a person to collect an oral fluid sample from their mouth, and place it in a developer vial to obtain test results within 20-40 minutes. The positivity of this test requires confirmatory results seeking further clinical testing (FDA, 2012). While there is treatment for HIV that can reduce viral load to undetectable levels, there currently is not a cure for HIV (CDC, 2012b).

In 2011, the total number of people living with HIV infection in California was 120,749. Among those living with HIV infection, 62% were classified as AIDS cases and 38% were HIV (Non-AIDS) cases. For the same year, San Diego had 12,074 cases of people living with HIV infection, with 60% of cases classified as AIDS and 40% as HIV cases. Imperial County had a total of 222 cases of people living with HIV, 69% for AIDS and 31% for HIV. In 2011, in both California and San Diego, the African-American population had the lowest numbers of persons living with HIV and/or AIDS (21,912 and 1559 respectively), but had the highest rate (953 and 1039 per 100,000 population respectively) when compared to the Hispanic/Latino and White population. Regarding the population living with HIV (Non-AIDS), in 2011 the California border region had a rate of 143 per 100,000 compared to the entire state of California which had a rate of 114 per 100,000. For the same year, in Imperial County, 86% of people living with HIV/AIDS were male, whereas in San Diego County males constituted 90% of all cases. Statewide males made up 88% of all HIV/AIDS cases. Among males the main mode of transmission was sexual transmission and the main exposure category was Men Who have Sex with Men (MSM) which represented 81% of all cases. Among females the predominant mode of transmission was heterosexual which accounted for 69% of the total cases (California Department of Public Health Office of AIDS, 2011).

## **SEXUALLY TRANSMITTED INFECTIONS**

Sexually Transmitted Infections (STIs) are a group of infections transmitted mainly or exclusively by sexual activity. There are more than two dozen of these infections caused by bacterial, virus, and parasitic organisms, including HIV. (Guttmacher Institute, 2009).

Large numbers of combined reported cases make STIs by far the most commonly reported communicable diseases in California (and in the United States). STIs can

generally be treated and cured if diagnosed early. However, since STIs do not cause symptoms in a large number of cases, the probability of not seeking proper treatment is high and potentially could lead to serious health complications (Guttmacher Institute, 2009). Furthermore, because STIs are often asymptomatic, the true burden of disease is many times greater than the actual number of reported cases (CDPH, 2012b). Rates of chlamydia, gonorrhea and syphilis all increased in California, San Diego, and Imperial County in 2011, compared to 2010. Chlamydia had a rate of 438 per 100,000, while gonorrhea and primary and secondary syphilis had a rate of 73.1 and 6.5 per 100,000, respectively for California in 2011 (CDPH, 2012b). This report will discuss three sexually transmitted infections: chlamydia, gonorrhea, and syphilis (primary and secondary), which are among the most common STIs in the United States.

**Chlamydia** infection is caused by the bacterium *Chlamydia trachomatis*. Approximately, 30% of the cases can be asymptomatic, but have the potential to cause several complications (Nelson, 2001). If left untreated, approximately 30% of women will develop pelvic inflammatory disease (PID) (Nelson, 2001), which is a major cause of infertility, ectopic pregnancy, and chronic pain. As observed throughout United States, in California, chlamydia is among the most prevalent of all STIs. In 2011, a total of 164,591 cases were reported, which represents a rate of 438 per 100,000 (CDPH, 2012b). Rates in Imperial County, San Diego, and throughout California were higher in 2011 than in 2007. From 2010 to 2011 the rates in California and Imperial County increased (from 416.3 to 438 per 100,000 and from 374.2 to 414.2 per 100,000, respectively). However, San Diego presented a slight decrease (from 494.8 to 491.8 per 100,000).

In 2011, chlamydia rates per 100,000 population were higher in San Diego (491.8) than in Imperial County (414.2). In the border region and California, Hispanics/Latinos and African Americans had higher rates when compared to Whites. In San Diego and throughout the state, African Americans had the highest rates (939.5 and 1,028.9 per 100,000 respectively), but in Imperial County Hispanics/Latinos had the largest rate among all races (331.0 per 100,000). In 2011, San Diego ranked number 8 and Imperial County number 13 for the highest number of chlamydia cases compared to all other counties in California (CDPH, 2011). For the same year, San Diego County's African American females had the highest rate (1236.6 per 100,000), almost 7.5 times higher than White females (171.7 per 100,000) (CDPH, 2011).

**Gonorrhea** is a bacterial exudative sexually transmitted infection caused by the bacterium *Neisseria gonorrhea*. The transmission could be through oral, vaginal, and rectal sex. It can also be transmitted from an untreated mother to her baby during childbirth (Nelson, 2001; CDC, 2013c). Often gonorrhea is asymptomatic and detectable only through screening (CDC, 2013c). Untreated gonococcal infection is associated with adverse reproductive health consequences in both females and males, such as pelvic inflammatory disease for females and urethritis for males, and can lead to more severe complications such as infertility. In addition, infections in pregnant females can lead to serious perinatal complications. Infected individuals may also contract HIV more easily if exposed (CDC, 2012f). Gonorrhea infection can be treated and cured by the use of antibiotics; however, the emergence of drug-resistant strains is affecting treatment choices in certain geographic areas including California (CDC, 2013c).

Gonorrhea is currently the second-most common reportable communicable disease in California. Rates for gonorrhea declined between 2007 and 2009 in both California and

the United States. However, in California, gonorrhea rates increased again in 2010 and 2011. In 2011, California received a total of 27,455 reports of gonorrhea cases which constitutes a rate of 73.1 cases per 100,000 (CDPH, 2011).

In Imperial County, the rate was 37.1/100,000 in 2007 and 16.2/100,000 in 2009; while in San Diego County there was a decrease from 78.3/100,000 in 2007 to 60.0/100,000 in 2009. However, both San Diego and Imperial reported an increase in number of cases from 2009 to 2011. In 2011, Imperial County had the lowest rate with 21.3/100,000, while California statewide had the highest rate with 73.1 cases per 100,000. In San Diego, the rate was 69.4 cases per 100,000. In 2011, throughout the state of California and in San Diego County, the African American population had higher gonorrhea rates than their White and Hispanic/Latino counterparts (303.33 in California and 186.43 in San Diego, per 100,000, respectively). Though lower than the African American population, the Hispanic/Latino population had rates higher than the White population in San Diego, Imperial County, and California statewide. Imperial County had the lowest rates when compared to San Diego County among Hispanic/Latino (19.19/100,000 and 37.18/100,000 respectively) as opposed to Whites (7.08/100,000 and 28.38/100,000 respectively).

**Primary and Secondary Syphilis** is a systematic sexually transmitted infection, caused by the bacterium *Treponema pallidum*; syphilis can be transmitted through direct contact with a syphilis sore (chancre). Sores occur mainly on the external genitals, vagina, anus, or in the rectum. Sores also can occur on the lips and in the mouth. Transmission of the organism occurs during vaginal, anal, or oral sex. Pregnant women with the disease can pass it to the fetus (CDC, 2012f). Genital sores (chancres) caused by syphilis make it easier to transmit and acquire HIV infection sexually. There is an estimated two- to five-fold increased risk of acquiring HIV if exposed to that infection when syphilis is present (CDC, 2012f). Screening at-risk persons for syphilis is important given the availability of effective treatments and the duration of latent stages after symptom disappearance (CDPH, 2012b).

In California, the rate of primary and secondary syphilis decreased throughout the 1990s, and in 2000 reached an all-time low. From 2007 to 2010 rates of syphilis did not fluctuate substantially in California. In 2011, 2,448 cases of primary and secondary syphilis (6.5 per 100,000) were reported in California (CDPH, 2011). Although in 2010 Imperial County did not report any cases, for 2011, Imperial County had a rate of 1.7 per 100,000. For 2011, San Diego ranked second place, for primary and secondary syphilis, when compared to the other counties in California; with a rate of 9.3 per 100,000. This rate was higher than the statewide rate of 6.5 per 100,000 (CDPH, 2011).

In 2011, throughout California and San Diego County, the African American population presented higher syphilis rates than their White and Hispanic/Latino counterparts (16.5 in California and 19.1 in San Diego, per 100,000, respectively). Though lower than the African Americans, the Whites presented higher rates than Hispanics/Latinos in San Diego, Imperial County, and throughout the state of California. For 2011, in Imperial County, the rate was 1.98/100,000 among Hispanics/Latinos, 3.54/100,000 among Whites, and 0 among African Americans. In San Diego County, the overall rate was 9.3/100,000. Hispanics/Latinos had a rate of 8.85/100,000, Whites 9.88/100,000, and among African Americans it was 19.08/100,000.

## CONCLUSION

With more than 3 million people living in the Southern California border region, the population demonstrates unique characteristics due to the diversity in cultural, social and economic factors. The 2012 Border Health Status report has identified important differences between San Diego and Imperial Counties regarding key health behaviors and health outcomes and differentials in prevalence compared the State as whole.

In the past decade the population of Imperial County has experienced an increase of 18.9%, more than double the rate of San Diego County. Imperial County was composed mainly by Hispanics/Latinos, while in San Diego this group constitutes the largest minority group. The Hispanic/Latino population in the California Border region is less likely to “speak English well”, graduate from college, and live at or above 300% federal poverty level. Additionally Hispanics/Latinos reported lower rates of health coverage than the White population. Important indicators for the health of the community are chronic diseases, including obesity and diabetes. As of 2009, more than half of the population in San Diego and Imperial Counties was overweight or obese (55.3% and 68.1%, respectively). Similarly, diabetes is a significant and growing problem in the region where 9.6% of all adults in Imperial County and 7.8% of all adults in San Diego County had diagnosed diabetes. Infectious diseases, like tuberculosis and HIV/AIDS, continue to be a significant challenge in the California border region. In the past decade, both the number and case rate of reported TB cases have declined in California, as well as in the border counties. Although the number of Mexican-born TB cases also declined during this time, Mexican-born cases continue to contribute 20-25% of California’s TB burden with even higher proportions in the border counties. Mexican-born TB cases are more likely to have a positive sputum smear, be co-infected with HIV, and to move prior to completing TB treatment. According to the CDPH HIV/AIDS branch, in 2011, San Diego had 12,0749 total persons living with HIV infection (62% classified as AIDS and 40% as HIV cases), while Imperial County had a total of 222 cases, with 31% HIV (non AIDS) and 69% diagnosed with AIDS. In San Diego, the African-American population had the lowest number of persons living with HIV/AIDS but had the highest rate (1039 per 100,000) when compared to the Hispanic/Latino and White population. The vast majority of the population living with HIV/AIDS in the border region is male, and sexual contact continues to be the main mode of transmission (MSM and heterosexual).

The differences in health outcomes have resulted in highlighting key health needs of the region to assist in identification of resources and services to these California residents. The California Department of Public Health, Office of Binational Border Health (OBBH) develops this report to inform the legislature on the identified health needs of the California border region and to assist in the education of public health professionals to enable a more focused approach for addressing the needs of the region. For more information about health issues that affect California’s border region, visit the Office of Binational Border Health’s website at [www.cdph.ca.gov/programs/cobbh](http://www.cdph.ca.gov/programs/cobbh).

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